

CLAIMS

1. An electrical connector comprising:
 - a first connector part (20) having an array of connector members (21,
5 24);
 - a second connector part (30) having an array of connector members (31, 34) which can mate with the first array of connector members;
 - the first and second connector parts (20, 30) being movable into a mated position by a closing mechanism which is movable along the arrays;
 - 10 respective parts of the first and second arrays of connector members having contacts for forming a conductive path when the connector parts are mated with one another; and
 - force applying means for continuously applying a force between the contacts after the connector parts (20, 30) have been mated.
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2. An electrical connector according to claim 1 wherein the force is directed along the longitudinal axis of the arrays of connector members.
3. An electrical connector according to claim 2 wherein the force
20 applying means is arranged to pull the connector members together in a direction which is aligned with the longitudinal axis of the arrays of connector members.
4. An electrical connector according to claim 3 wherein the force
25 applying means is a cord (41) which extends between one end of the array (41A) and a point at least beyond the other end of the array.
5. An electrical connector according to any one of claims 2 to 4 wherein the force applying means is manually operable.

6. An electrical connector according to any one of claims 2 to 4 wherein the force applying means is operable by cooperation between the closing mechanism and the cord.

5 7. An electrical connector according to any one of the preceding claims wherein at least some of the connector members have a resilient outer coating (26).

8. An electrical connector according to claim 1 wherein the connector
10 members in the second array are arranged to clasp (420) the connector members in the first array.

9. An electrical connector according to claim 8 wherein the connector
members in the second array act in a direction which is substantially normal to
15 the longitudinal axis of the arrays of connector members.

10. An electrical connector according to claim 9 wherein the
connector members in the second array comprise jaws (421, 422) which are
movable in a direction substantially normal to the longitudinal axis of the arrays
20 of connector members.

11. An electrical connector according to claim 10 wherein the jaws
(421, 422) are biased into a clasp position and are movable into an open
position as the closing mechanism (430) is moved across the jaws.
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12. An electrical connector according to claim 8 or 9 wherein the
connector members in the second array comprise electrical contacts (225)
which are held in a resilient mounting (226).

30 13. An electrical connector according to claim 1 wherein the force is applied between the first and second arrays of connector members,

perpendicularly to the longitudinal axis of the arrays, and in the plane of the arrays.

14. An electrical connector according to claim 13 wherein each array
5 of connector members comprises a first layer which comprises connector members (301, 321) which provide mechanical interconnection and alignment and a second layer which comprises electrical contacts (305, 325).

15. An electrical connector according to claim 14 wherein the second
10 layer comprises a further set of connector members which provide mechanical interconnection and alignment (355, 365).

16. An electrical connector according to claim 14 or 15 wherein the
15 second layer is resiliently mounted such that a compression force is applied between the contacts.

17. An electrical connector according to claim 13 wherein the first
and second connector parts comprise posts (515, 535) and the closing
mechanism (520) is arranged to wind a cord (518) around posts of both
20 connector parts whereby to pull the connector parts towards one another.

18. An electrical connector according to claim 13 wherein each of the
connector parts comprises a channel which extends along the part and the
closing mechanism is arranged to feed a cord (235) along the channel.
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19. An electrical connector according to claim 1 wherein the first
array of connector members comprises a set of connector members which
provide mechanical interconnection and alignment and a flexible strap (615)
which carries contacts for forming a conductive path with contacts on the
30 second connector part.

20. An electrical connector according to any one of the preceding claims in the form of a zipper-type connector.

21. A textile article comprising an electrical connector according to
5 any one of the preceding claims.

22. An electronic apparatus comprising an electrical connector according to any one of claims 1 to 20.